

$f(x) = -\frac{1}{3}|x-6|-5$

- Reflection over the  $x$  axis.
- Vertically compressed by a factor of  $\frac{1}{3}$ .
- Shifted 6 units to the right.
- Shifted 5 units down.

the graph of  $f(x) = |x|$  translated 4 units left and 5 units up, vertically stretched by a factor of 6, and reflected over the  $x$ -axis.

$SW = 6|x+4|+5$

Nov 7-11:46 AM

Graphing Absolute Value Functions

General Function:  $y = a|x-h|+k$  where  $(h, k) = \text{Vertex}$

1.  $y = |x|+2$   
 $h = 0$   $k = 2$   
 Vertex:  $(0, 2)$   
 "slope" = 1

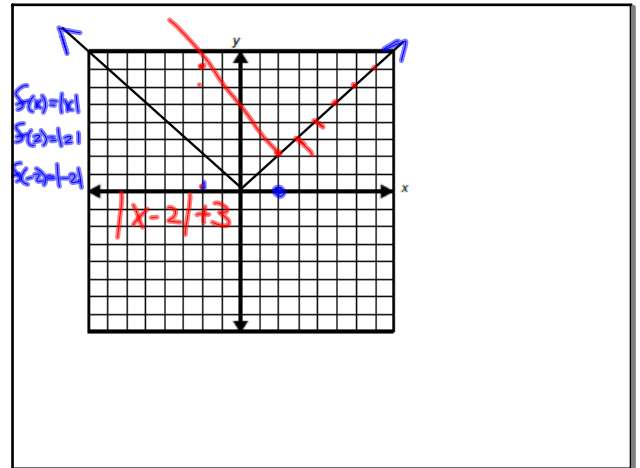
2.  $y = |x-1|$   
 $h = 1$   $k = 0$   
 Vertex:  $(1, 0)$   
 "slope" = 1

3.  $y = 2|x+1|$   
 $h = -1$   $k = 0$   
 Vertex:  $(-1, 0)$   
 "slope" = 2

4.  $y = -\frac{1}{2}|x-2|+1$   
 $h = 2$   $k = 1$   
 Vertex:  $(2, 1)$   
 "slope" =  $-\frac{1}{2}$

5.  $y = |x-2|+3$   
 $h = 2$   $k = 3$   
 Vertex:  $(2, 3)$   
 "slope" = 1

6.  $y = \frac{1}{3}|x|-2$   
 $h = 0$   $k = -2$   
 Vertex:  $(0, -2)$   
 "slope" =  $\frac{1}{3}$



Nov 7-11:47 AM

Algebra 2  
 2.6 Absolute Value HW

Name: \_\_\_\_\_  
 Date: \_\_\_\_\_

Graphing Absolute Value Functions

1.  $y = |x-3|+2$   
 $h = 3$   $k = 2$   
 Vertex:  $(3, 2)$   
 "slope" = 1

2.  $y = |x-3|+2$   
 $h = 3$   $k = 2$   
 Vertex:  $(3, 2)$   
 "slope" = 1

3.  $y = 2|x|-1$   
 $h = 0$   $k = -1$   
 Vertex:  $(0, -1)$   
 "slope" = 2

4.  $y = \frac{1}{2}|x+1|-2$   
 $h = -1$   $k = -2$   
 Vertex:  $(-1, -2)$   
 "slope" =  $\frac{1}{2}$

5.  $y = -|x+4|-1$   
 $h = -4$   $k = -1$   
 Vertex:  $(-4, -1)$   
 "slope" = -1

6.  $y = \frac{1}{3}|x|+1$   
 $h = 0$   $k = 1$   
 Vertex:  $(0, 1)$   
 "slope" =  $\frac{1}{3}$

7.  $y = -2|x|+4$   
 $h = 0$   $k = 4$   
 Vertex:  $(0, 4)$   
 "slope" = -2

8.  $y = \frac{2}{3}|x-1|-4$   
 $h = 1$   $k = -4$   
 Vertex:  $(1, -4)$   
 "slope" =  $\frac{2}{3}$

HW  
2.6 Notes  
Graph 12 absolute value functions

Nov 7-12:36 PM